**LESSON PLAN**

**Current Genetic Research**

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| **Subject/Course:** Grade 11 Academic SBI3U | **Date:** January 18th, 2012 |
| **Concept:** Examining recent genetic research | **Time Period:** 75 min. |

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| **BIG IDEA:**   * Research in genetics is expansive and has implications in many scientific fields |

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| **LEARNING GOALS:**   * To consider the ways in which genetic research is reported in the media and the significance * To examine current articles on genetic research, including contributions from Canadian scientists * To gain an appreciation for the widespread implications of genetic research in various fields * To summarize and analyze articles in science and communicate ideas |

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| **OVERALL EXPECTATIONS:**   * D1. Evaluate the importance of some recent contribution to our knowledge of genetic processes. * D3. Demonstrate an understanding of concepts, processes and technology related to the transmission of hereditary characteristics. |

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| **SPECIFIC EXPECTATIONS:**   * D1.2 evaluate, on the basis of research, the importance of some recent contributions to knowledge, techniques, and technologies related to genetic processes (e.g., research into the cystic fibrosis gene; the use of safflowers to produce insulin for human use) [IP, PR, AI, C] * D3.2 explain the concepts of DNA, genes, chromosomes, alleles, mitosis, and meiosis, and how they account for the transmission of hereditary characteristics according to Mendelianlaws of inheritanc |

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| **PRIOR KNOWLEDGE**   * Students have an understanding of terms such as gene, allele, chromosome, DNA, genome, and mutation * Students have knowledge of genetic processes such as mitosis and meiosis |

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| **REQUIRED MATERIALS**   * Handout- Minds On article * Science Daily articles (approximately 5 packages of 5 articles, 1 for each group) * STSE Assignment handout |

**STEP BY STEP DESCRIPTION:**

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| **Step** | **Details** | **Time (min)** |
| **Minds On**  *Classroom Discussion*  *Assessment for learning* through classroom discussion | * Ask questions about the term “ genohype” * Have students Think-Pair-Share about pros and cons of media involvement in genetic research * Distribute abstract of article “Do the print media “hype” genetic research? A comparison of newspaper stories and peer-reviewed research papers” (Appendix B) * Read the article together, using volunteer or chosen readers * Discuss reactions and opinions on results and implications of the study (Appendix A) | 10-15 min. |
| **Activity**  *Group work- Jigsaw* | * Divide class into “home” groups and distribute a package with all 5 articles * Have each person in the home group select an article and move into that “expert” group * In their expert groups students read their article and make a summary, including the main idea and implications of the research * After expert groups have completed their summaries (~25 min) students return to their home group and each person shares the summary of their article (~20 min) * Teacher will circle the room to ensure that groups stay on task and answer any questions if needed | 45-50 min. |
| **Consolidation**  *Classroom Discussion*  *Assessment for learning,*through classroom discussion. | * As a class have students share what they found most interesting among the articles and why it is important to keep informed about these issues * Handout outline for STSE assignment (if time) | 15 min. |

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| **ASSESSMENT *FOR* AND *AS* LEARNING:**   * Informal assessment will take place throughout the classroom discussions * Informal assessment will also take place during the group work activity. * The main ideas of this lesson will be addressed in the STSE assignment will be evaluated based on student’s research and presentation |